Amendments to the Claims

1. (Currently amended) A gas turbine engine combustor comprising:

an inboard wall;

an outboard wall; and

a forward bulkhead extending between the inboard and outboard walls and cooperating therewith to define a combustor interior volume,

wherein, at least a first wall of said inboard and outboard walls comprises:

an exterior shell having a plurality of apertures; and

an interior heat shield comprising a plurality of leading panels adjacent the bulkhead, each panel having:

an interior surface;

an exterior surface;

a perimeter having leading and trailing edges and first and second lateral edges;

a plurality of cooling gas passageways having inlets on the panel exterior surface and outlets on the panel interior surface; and

a rail, protruding from the exterior surface and recessed from the leading edge by 3-10 mm along a majority of the leading edge, the shell's apertures positioned to direct cooling air against the panel exterior surface between the leading edge and the rail.

2. (Original) The combustor of claim 1 wherein the rail contacts the shell.

3. (Original) The combustor of claim 1 wherein the first wall is the outboard wall.

4. (Original) The combustor of claim 1 wherein the first wall is the outboard wall and wherein the inboard wall comprises:

an exterior shell; and

an interior heat shield comprising a plurality of panels having:

an interior surface;

an exterior surface;

a perimeter having leading and trailing edges and first and second lateral edges;

a plurality of cooling gas passageways having inlets on the panel exterior surface and outlets on the panel interior surface; and

a rail, protruding from the exterior surface and recessed from the leading edge by 3-10 mm along a majority of the leading edge.

5. (Canceled)

6. (Currently amended) The combustor of claim ~~5~~ 1 wherein the apertures are positioned to preferentially direct said cooling air along areas circumferentially aligned with fuel injectors.

7. (Original) The combustor of claim 1 wherein the rail is recessed along the entire front edge by at least 3.5 mm.

8. (Original) The combustor of claim 1 wherein the there is a gap between the exterior surface and the shell having a height of 1-3 mm.

9. (Canceled)

10. (Canceled)

11. (Canceled).

12. (Canceled)

13. (Canceled)

14. (Canceled)

15. (Previously presented) The combustor of claim 1 wherein the rail is a perimeter rail

having portions along the first and second lateral edges and trailing edge.

16. (Previously presented) The combustor of claim 15 wherein the portions along the first and second lateral edges and the trailing edge are not recessed from the first and second lateral edges and trailing edge, respectively.

17. (Previously presented) The combustor of claim 1 wherein the bulkhead comprises a plurality of heat shield panels, each having a portion extending adjacent a leading edge portion of at least one of the interior heat shield panels.

18. (New) The combustor of claim 1 wherein:
the rail is a leading-most rail.

19. (New) The combustor of claim 1 wherein:
the rail contacts the shell aft of the apertures.

20. (New) The combustor of claim 1 wherein:
the apertures are positioned so that their discharge impacts the panel ahead of the rail and flows forward, wrapping around the leading edge and then aftward between the panel and an adjacent portion of a heat shield panel on the bulkhead.

21. (New) The combustor of claim 1 wherein:
the apertures are ahead of the rail.

22. (New) The combustor of claim 1 wherein:
the apertures are distributed to provide enhanced flow regions aligned between associated pairs of fuel injectors/swirlers to provide enhanced cooling to counter the concentration of heat generated immediately downstream of overlapping spray zones of said injector/swirlers.

23. (New) The combustor of claim 22 wherein:

the apertures are distributed in alternating first and second groups, the number of holes in the first group is smaller than that in the second group and the circumferential span of the first group is smaller than that of the second group.

24. (New) The combustor of claim 1 wherein:

the apertures are distributed in alternating first and second groups, the number of holes in the first group is smaller than that in the second group and the circumferential span of the first group is smaller than that of the second group.